

Serial No.: 10/520,019
Atty. Dkt. No.: P70345US0

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) Sensor unit for an apparatus for preventing the condensation of a gas, particularly water vapour, on a surface of an object,
 - with a temperature measuring device (12) for measuring an object temperature,
 - with a dew point determination device (14) for determining a dew point temperature of the gas in an atmosphere surrounding the object (20), the dew point determination device (14) being constructed as a dew point sensor (50) for the direct measurement of the dew point, and
 - with a regulating and control device (16) operatively connected to the temperature measuring device (12) and the dew point determination device (14) and with which an adjusting device (18) for increasing a temperature difference between the object temperature and the dew point temperature can be controlled as a function of the data obtained by the temperature measuring device (12) and the dew point determination device (14) in such a way that a reduction of the object temperature to or below the dew point temperature is prevented, characterized in that
 - the temperature measuring device (12) is constructed as a temperature sensor operating in contactless manner
 - ~~the dew point determination device (14) is constructed as a dew point sensor (50) for the direct measurement of the dew point and the temperature measuring device (12) is constructed as a temperature sensor operating in contactless manner~~ sensor (50) is of the type where the measuring principle used is the change to an internal light reflection when the gas is condensed on a measurement surface (52), and
 - the temperature sensor, the dew point sensor and the regulating and control device are housed in a common housing.
2. (Original) Sensor unit according to claim 1, characterized in that the temperature sensor is constructed as an infrared sensor.

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3. (Original) Sensor unit according to claim 2, characterized in that the temperature sensor is a thermopile sensor.

4. (Previously Presented) Sensor unit according to claim 2, characterized in that the temperature sensor is provided with a spectral filter.

5. (Cancelled)

6. (Currently Amended) Sensor unit according to claim 1, characterized in that there is a further temperature measuring device for determining ~~the~~ a temperature of the atmosphere (28) surrounding the object (20), particularly ~~the~~ a temperature within a motor vehicle passenger compartment.

7. (Cancelled)

8. (Previously Presented) Apparatus for preventing the condensation of a gas, particularly water vapour, on a surface of an object, having a sensor unit (10) according to claim 1, and with an adjusting device (18) for increasing a temperature difference between the object temperature and dew point temperature.

9. (Original) Apparatus according to claim 8, characterized in that the adjusting device is constructed as a heating device for the direct and/or indirect heating of the object.

10. (Previously Presented) Apparatus according to claim 8, characterized in that the adjusting device is constructed as a drying device for reducing a gas content, particularly a water vapour content, in the atmosphere surrounding the object.

11. (Previously Presented) Apparatus according to claim 8, characterized in that it is constructed as a means for preventing the misting of the windows of a motor vehicle.

12. (Currently Amended) Method for avoiding the condensation of a gas, particularly water vapour, on a surface of an object, with the method steps of:

(a) measuring an object temperature,
(b) determining a dew point temperature of the gas in an atmosphere surrounding the object,
(c) raising the object temperature and/or reducing the dew point temperature as a function of the object temperature measured in step (a) and/or the dew point temperature determined in step (b) for preventing a lowering of the object temperature to or below the dew point temperature, characterized in that

- the dew point temperature of the gas is directly measured with a dew point sensor, the measuring principle used being the change to an internal light reflection when the gas is condensed on a measurement surface (52), and
- the object temperature is measured in contactless manner.

13. (Previously Presented) Method according to claim 12, characterized in that the temperature difference between the object temperature and dew point temperature is kept above a predetermined minimum temperature difference by a regulating and control device (16).